

CDHS' ARCHIVED ADVISORY LEVELS FOR DRINKING WATER

In 1982 and 1983, CDHS provided advisory levels (then called "action levels" and now called "notification levels") for a number of chemicals to the Central Valley Regional Board. Many were pesticides that had not been detected in drinking water but which were nonetheless of concern because of their association with a particular site.

Some of those chemicals now have drinking water standards. The remaining chemicals are archived here, along with several others with advisory levels established in 1990 and 1991. Many of the archived advisory levels were updated in 2000.

If a chemical is detected above its archived advisory level (Table 1), the requirements and recommendations are the same as for chemicals detected above their [notification levels and response levels](#) (the latter for recommending removing a source from service—see Table 2).

Table 1. Archived Advisory Levels

| Notes* | Chemical | Archived Advisory Level (milligrams per liter) |
|---------------|---|---|
| 1 | Aldicarb | 0.007 |
| 2 | Aldrin | 0.000002 |
| 3 | Baygon | 0.03 |
| 4 | a-Benzene Hexachloride | 0.000015 |
| 5 | b-Benzene Hexachloride | 0.000025 |
| 6 | Captan | 0.015 |
| 7 | Carbaryl | 0.7 |
| 8 | Chloropicrin | 0.05 |
| 9 | Chlorpropham (CIPC) | 1.2 |
| 10 | Diazinon | 0.006 |
| 11 | 1,3-Dichlorobenzene | 0.6 |
| 12 | Dieldrin | 0.000002 |
| 13 | Dimethoate | 0.001 |
| 14 | 2,4-Dimethylphenol | 0.1 |
| 15 | Diphenamide | 0.2 |
| 16 | Ethion | 0.004 |
| 17 | Malathion | 0.16 |
| 18 | N-Methyl dithiocarbamate (Metam sodium) | 0.02 |
| 19 | Methylisothiocyanate | 0.05 |
| 20 | Methyl parathion | 0.002 |
| 21 | Parathion | 0.04 |
| 22 | Pentachloronitrobenzene | 0.02 |
| 23 | Phenol | 4.2 |
| 24 | 2,3,5,6-Tetrachloroterephthalate | 3.5 |
| 25 | Trithion | 0.007 |

* Notes include toxicological endpoint references, history, and other information, and are presented on the next page of this document. If the archived action level was updated to reflect a more recent risk assessment, that is indicated in the Notes.

| Table 2. Recommendations for removing a drinking water source from service | | |
|---|-------------------------------|--|
| Chemical | Toxicological Endpoint | Source Removal Level (multiples of Archived Action Level) |
| aldrin, a-BHC, b-BHC, captan, dieldrin | Cancer risk | 100 times the AAL |
| All others | Noncancer effects | 10 times the AAL |

Notes on Chemicals with Archived Advisory Levels

1. Aldicarb: ENDPOINT: Noncancer—acetylcholinesterase inhibition in people. REFERENCE: US EPA Integrated Risk Information System (IRIS), 1993. Aldicarb. The last revision for the oral reference dose (RfD) was November 1, 1993. HISTORY: DHS established an action level (AL) of 10 micrograms per liter (µg/L) in 1983, and revised it to the current level in 2000.

2. Aldrin: ENDPOINT: Cancer. REFERENCE: Title 22 California Code of Regulations (22 CCR) §12705. HISTORY: DHS established a 1-µg/L AL in 1982. In 1983, DHS changed it to 0.05 µg/L, the limit of quantitation, and in 2000, to the current level.

3. Baygon: ENDPOINT: Noncancer—mild cholinergic symptoms and red blood cell cholinesterase inhibition in people. REFERENCE: IRIS, 1992. Baygon. The last revision for the oral RfD was July 1, 1992. HISTORY: DHS first established a 0.09-mg/L AL in 1982, and revised it the current level in 2000.

4. a-Benzene Hexachloride: ENDPOINT: Cancer. REFERENCE: 22 CCR §12705. HISTORY: AL for alpha-BHC was first established in 1982 as 0.7 µg/L, and revised to current level in 2000.

5. b-Benzene Hexachloride: ENDPOINT: Cancer. REFERENCE: 22 CCR §12705. HISTORY: AL for beta-BHC was first established in 1982 as 0.3 µg/L, and revised to current level in 2000.

6. Captan: ENDPOINT: Cancer. REFERENCE: 22 CCR §12705. HISTORY: AL for Captan was first established in 1982 as 350 µg/L, and revised to current level in 2000.

7. Carbaryl: ENDPOINT: Noncancer—kidney and liver toxicity in rats. REFERENCE: IRIS, 1988. HISTORY: AL for carbaryl was included on a June 1986 list of ALs as 60 µg/L, and revised to current level in 2000.

8. Chloropicrin: ENDPOINT: Noncancer. HISTORY: AL for chloropicrin was included on a March 1986 list of ALs at the current level. In 1985 DHS drinking water staff referred to a National Cancer Institute bioassay (NCI-CG-TR-65, 1978) in which rats exposed to chloropicrin experienced too much lethality to enable an evaluation of chloropicrin's carcinogenicity. A taste and odor-based level of 37 µg/L was also established in 1986.

9. Chlorpropham (CIPC): ENDPOINT: Noncancer—kidney, spleen, liver, and bone marrow toxicity in rats. REFERENCE: IRIS, 1988. HISTORY: AL for CIPC was first established in 1982 as 350 µg/L, and revised to current level in 2000.

10. Diazinon: ENDPOINT: Noncancer—neurotoxicity. REFERENCE: HEAST, 1997. Health Effects Advisory Summary Tables (HEAST), FY 1997 Update, US Environmental Protection Agency (US EPA), Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, July 1997. HISTORY: AL for was first established in 1982 as 14 µg/L, and revised to current level in 2000.

11. 1,3-Dichlorobenzene: ENDPOINT: Noncancer—liver toxicity, organ and body weight changes in rats. AL uses 1,2-dichlorobenzene's MCL (and public health goal) as a surrogate. HISTORY: AL was first established in 1983 as 130 µg/L (20 µg/L for taste and odor threshold), and revised to current level in 2000.

12. Dieldrin: ENDPOINT: Cancer. REFERENCE: 22 CCR §12705. HISTORY: AL was first established in 1983 as 0.05 µg/L, the limit of quantification, and revised to current level in 2000.

13. Dimethoate: ENDPOINT: Noncancer—brain cholinesterase inhibition in rats. REFERENCE: IRIS, 1990. Dimethoate. The last revision for the oral RfD was September 1, 1990. HISTORY: AL was first established in 1982 as 140 µg/L, and revised to current level in 2000.

14. 2,4-Dimethylphenol: ENDPOINT: Noncancer—clinical signs and blood changes in mice. REFERENCE: IRIS, 1990. 2,4-Dimethylphenol. The last revision for the oral RfD was November 1, 1990. HISTORY: AL was first established in 1983 as 400 µg/L for chlorinated systems (taste and odor threshold), and revised to current level in 2000.

15. Diphenamide: ENDPOINT: Noncancer—liver toxicity in dogs. REFERENCE: IRIS, 1991. Diphenamide. The last revision for the oral RfD was March 1, 1991. HISTORY: AL was first established in 1983 as 40 µg/L, and revised to current level in 2000.

16. Ethion: ENDPOINT: Noncancer—plasma cholinesterase inhibition in people. REFERENCE: IRIS, 1989, Ethion. The last revision for the oral RfD was September 1, 1989. HISTORY: AL was first established in 1982 as 35 µg/L, and revised to current level in 2000.

17. Malathion: ENDPOINT: Noncancer—red blood cell cholinesterase inhibition in people. REFERENCE: IRIS, 1992. Malathion. The last revision for the oral RfD was January 1, 1992. HISTORY: AL was first established in 1982 as 160 µg/L, and revised to current level in 2000.

18. Metam sodium: ENDPOINT: Noncancer—decreased body weight, reduced food and water consumption, blood changes in rats. REFERENCE: OEHHA, 1991. Memorandum from A. Fan, OEHHA, to D. Spath, DHS, "Cantara Incident: Interim Action Levels - N-Methyl dithiocarbamate (Metam Sodium); Methylisothiocyanate (MITC)," July 19, 1991. HISTORY: AL established in 1991. ADDITIONAL

INFORMATION: AL uses standard risk assessment methods and these assumptions: child: BW = 10 kg, DWC = 1 L/day, and RSC = 1.

19. Methylisothiocyanate: ENDPOINT: Noncancer—decreased weight gain, reduced food and water consumption in rats. REFERENCE: OEHHA, 1991. Memorandum from A. Fan, OEHHA, to D. Spath, DHS, "Cantara Incident: Interim Action Levels - N-Methyl dithiocarbamate (Metam Sodium); Methylisothiocyanate (MITC)," July 19, 1991. HISTORY: AL established in 1991. ADDITIONAL INFORMATION: AL uses standard risk assessment methods and these assumptions: child: BW = 10 kg, DWC = 1 L/day, and RSC = 1.

20. Methyl parathion: ENDPOINT: Noncancer—red blood cell cholinesterase inhibition, blood changes in rats. REFERENCE: IRIS, 1991. Methyl parathion. The last revision for the oral RfD was March 1, 1991. HISTORY: AL was first established in 1982 as 30 µg/L, and revised to current level in 2000.

21. Parathion (ethyl): ENDPOINT: Noncancer. REFERENCE: HEAST, 1997. Health Effects Advisory Summary Tables (HEAST), FY 1997 Update, US Environmental Protection Agency (US EPA), Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, July 1997. HISTORY: AL was first established in 1983 for parathion (ethyl) as 40 µg/L, and revised to current level in 2000.

22. Pentachloronitrobenzene: ENDPOINT: Noncancer—liver toxicity in dogs. REFERENCE: IRIS, 1992. Pentachloronitrobenzene. The last revision for the oral RfD was January 1, 1992. HISTORY: AL was first established in 1982 as 0.9 µg/L, and revised to current level in 2000.

23. Phenol: ENDPOINT: Noncancer—reduced fetal body weight in rats. REFERENCE: IRIS, 1990. Phenol. The last revision for the oral RfD was February 1, 1990. HISTORY: AL was first established in 1983 as 1 µg/L for chlorinated systems (taste and odor threshold), and revised to current level in 2000.

24. 2,3,5,6-Tetrachloroterephthalate: ENDPOINT: Noncancer. REFERENCE: DHS, 1990. Memorandum from J. Brown, Pesticide and Environmental Toxicology Section, DHS, to A. Milea, Office of Drinking Water, DHS, "TPA Interim Action Level," December 10, 1990. HISTORY: AL established in 1990.

25. Trithion: ENDPOINT: Noncancer. REFERENCE: See DHS, 1983. HISTORY: AL established in 1983.

Additional References

DHS, 1982. Memorandum from J. Gaston, DHS, to S. Green, Central Valley Regional Water Quality Control Board (RWQCB), Recommended Acceptable Limits - T-H Agriculture & Nutrition Company, September 24, 1982.

DHS, 1983. Memorandum from D. Spath, DHS, to T. Souther, Central Valley RWQCB, Toxicology Report - THAN, T.H. Agriculture and Nutrition Company, August 2, 1983.